

WHAT IS CLAIMED IS:

1. An equipment carrier for mounting onto a rear component of a vehicle structure, such as a vehicle 5 trunk lid or door, comprising:

- a frame having lower engagement means engageable with a lower area of the vehicle component;

10 - a structure connected to the frame or forming part thereof, for carrying one or more items of equipment;

- at least one vehicle engaging member, connected to the frame or forming part thereof, for engaging the vehicle component at a position above said lower area,

15 - a strap member having upper engagement means for engagement with an upper area of the vehicle component,

- at least one support connected to the frame or forming part thereof, provided with strap engaging and tensioning means, which are engaged by said strap member and can be controlled for tensioning the strap

20 member in order to tighten said upper and lower engagement means onto said upper and lower areas of the vehicle component.

2. A carrier as set forth in claim 1, wherein said 25 strap engaging and tensioning means comprise a mechanism for holding the strap member in any set position relative to said support, a strap tensioning member for applying tension to said strap member, and a release control member for releasing said mechanism in 30 order to enable free movement of the strap member relative to said support.

3. A carrier as set forth in claim 2, wherein said mechanism is a ratchet mechanism.

4. A carrier as set forth in claim 1, wherein said vehicle engaging member for engaging the vehicle component is mounted to said support.

5 5. An equipment carrier for mounting onto a rear component of a vehicle structure, such as a vehicle trunk lid or door, comprising:

- a frame having lower engagement means engageable with a lower area of the vehicle component;

10 - a structure connected to the frame or forming part thereof, for carrying one or more items of equipment;

- at least one vehicle engaging member, connected to the frame or forming part thereof, for engaging the vehicle component at a position above said lower area,

15 - a strap member having upper engagement means for engagement with an upper area of the vehicle component,

- at least one support connected to the frame or forming part thereof, provided with strap engaging means, which are permanently engaged by said strap member and are also adapted for storing the strap member within said support in a wound or folded configuration.

25 6. A carrier as set forth in claim 5, wherein said strap engaging means are in form of strap winding means.

30 7. A carrier as set forth in claim 6, wherein the strap winding means comprise a mechanism for holding the strap winding means in any set condition, a strap tensioning member for controlling the mechanism in order to apply a tension to the strap member, and a release control member to release the mechanism in

order to enable unwinding of the strap member from said strap winding means.

8. A carrier as set forth in claim 7, wherein said
5 mechanism is a ratchet mechanism.

9. A carrier as set forth in claim 5, wherein said vehicle engaging member for engaging the vehicle component is mounted to said support.

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10. An equipment carrier for mounting onto a rear component of a vehicle structure, such as a vehicle trunk lid or door, comprising:

15 - a frame having lower engagement means engageable with a lower area of the vehicle component;

- a structure connected to the frame or forming part thereof, for carrying one or more items of equipment;

20 - at least one vehicle engaging member, connected to the frame or forming part thereof, for engaging the vehicle component at a position above said lower area,

- a strap member engaged with a support on said frame and having upper engagement means for engagement with an upper area of the vehicle component,

25 - wherein the vehicle engaging member is pivotally mounted with respect to the frame around a pivot axis, so that when the carrier is mounted on the vehicle, tensioning the strap member induces a tilting action on said frame around said pivot axis which causes the 30 lower engagement means of said frame to be urged against the lower area of the vehicle component.

11. A carrier as set forth in claim 10, wherein said vehicle engaging member is in form of a rocking member having a mid portion pivotally supported around
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said pivot axis by said frame and two end portions to which vehicle engaging feet are pivotally connected.

12. A carrier as set forth in claim 11, wherein
5 said rocking member is U-shaped.

13. A carrier as set forth in any of claims
1,5,10, wherein said frame includes a pair of upright
sections, a cross-member which interconnects the upper
10 ends of said upright sections and is provided with
means for mounting the equipment-carrying structure,
curved lower sections extending from the lower ends of
the upright sections, and terminating in forwardly
facing ends, and a hook carrying member mounted to each
15 of said forwardly facing ends and including a hook.

13. A carrier as set forth in claim 12, wherein
each hook carrying member is mounted on the associated
forwardly facing end of said frame so as to be able to
20 perform a limited rotation with respect to said
forwardly facing end.

14. A carrier as set forth in claim 12, wherein
said support is mounted on a respective one of said
25 upright sections by connecting means enabling an
adjustment of the position of said support along said
upright section.

15. A carrier as set forth in claim 14, wherein
30 each upright section has forwardly facing spaced
indentations selectively engageable by said connecting
means.

16. A carrier as set forth in claim 14, wherein
35 said connecting means are in form of clamp means

carried by said support and adapted to be tightened around said upright section at any position thereof by means of a screw.

5 17. A carrier as set forth in claim 16, wherein each upright section has a forwardly facing flat surface engageable by said tightening screw of said clamp means in order to prevent rotation of the support relative to the upright section.

10 18. A carrier as set forth in claim 16, wherein said support has a supporting structure in form of a U-bent metal sheet surrounding a rearwardly facing portion of the upright section and having two cut-away 15 portions defining said clamp means, which are engageable by said tightening screw forwardly of said upright section.

19. A carrier as set forth in claim 13, wherein
20 said means for mounting the equipment-carrying structure which are provided on said cross-member comprise an array of angularly spaced axial ridges arranged around the cross-member and extending longitudinally therealong and at least one equipment 25 carrying arm having a hub section with an inner surface having an array of longitudinal angularly spaced teeth which are engageable with said ridges, to connect said arm to said cross-member at different desired orientations.

30 20. A carrier as set forth in claim 19, wherein said ridges are formed on an engagement member surrounding said cross-member.

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21. A carrier as set forth in claim 20, wherein said engagement member surrounding the cross-member has a split construction.

5 22. A carrier as set forth in claim 19, wherein said hub section has a split construction.

10 23. A carrier as set forth in claim 3, wherein said support has a through passage through which said strap member is engaged, said strap member having a series of one-way teeth, and wherein said ratchet mechanism includes a toothed strap retainer pivotally mounted to said support and elastically biased to a position in which its teeth engage the teeth of the 15 strap member, so as to enable movement of the strap member in a tensioning direction and preventing movement of the strap member in the opposite direction.

20 24. A carrier as set forth in claim 23, wherein said strap tensioning member is in form of a lever pivotally mounted on said support and having a series of one-way teeth engageable with said teeth of the strap member, said lever being operable to have an active movement from a first position to a second 25 position, where it causes tensioning of the strap member, and an inactive return movement from the second position to the first position, during which the strap retainer holds the strap member in the previously reached position.

30 25. A carrier as set forth in claim 24, wherein said release control member is in form of a trigger member which can be actuated in order to move said strap retainer away from its position engaging the 35 strap member.

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26. A carrier as set forth in claim 23, wherein said support has a split construction.

5 27. A carrier as set forth in claim 8, wherein said strap winding means include a strap winding roller rotatably mounted to said support, on which the strap member can be wound, and wherein said ratchet mechanism includes at least one ratchet wheel carried by said
10 winding roller and having a series of one-way teeth, and a retainer pivotally mounted to said support and elastically biased to a position in which its teeth engage the teeth of the ratchet wheel, so as to enable a rotation of the wheel in a strap winding tensioning
15 direction and preventing an opposite rotation of the wheel.

28. A carrier as set forth in claim 27, wherein said strap tensioning member is in form of a lever
20 pivotally mounted on said support and provided with a toothed pawl pivotally connected to the structure of said tensioning lever and elastically biased to a position in which it engages the teeth of the ratchet wheel, said lever being operable to have an active
25 movement from a first position to a second position, where said pawl causes rotation of the ratchet wheel in the strap winding direction, and an inactive return movement from the second position to the first position, during which the retainer holds the ratchet
30 wheel in the previously reached position.

29. A carrier as set forth in claim 28, wherein said release control member is in form of a trigger member which can be actuated in order to move said

retainer away from its position engaging the ratchet wheel.

30. A carrier as set forth in claim 24 or 28,
5 wherein said support is mounted on an upright section forming part of the carrier frame, and wherein said tensioning lever is pivotally mounted to said support around an axis located forwardly of said upright section, and has a body extending rearwardly of the
10 upright section, with a through passage through which the upright section is arranged.

31. A carrier as set forth in claim 30, wherein said release control member is in form of a trigger
15 member arranged on said support forwardly of the upright section and operable by pulling it rearwardly.

32. An equipment carrier arrangement for mounting onto a rear component of a vehicle structure, such as a
20 vehicle trunk lid or door, comprising:

- a frame having lower engagement means engageable with a lower area of the vehicle component;
- a structure connected to the frame or forming part thereof, for carrying one or more items of
25 equipment;
- at least one vehicle engaging member, connected to the frame or forming part thereof, for engaging the vehicle component at a position above said lower area,
- a strap member having upper engagement means for
30 engagement with an upper area of the vehicle component,
- at least one support connected to the frame or forming part thereof, provided with strap engaging means which are permanently engaged by said strap member, so that said strap member constitutes an
35 integral part of said carrier arrangement, whereby the

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latter can be mounted on a vehicle with no need of additional separate strap members.

33. A carrier as set forth in claim 19, wherein
5 said equipment carrying structure is selected among a number of different structures adapted to carry different items of equipment, such as bicycles, skis, snowboards, pieces of luggage.